

Gilliland & Armstrong.

Pump.

N^o 75747

Patented Mar. 24, 1868.

Fig. 1.

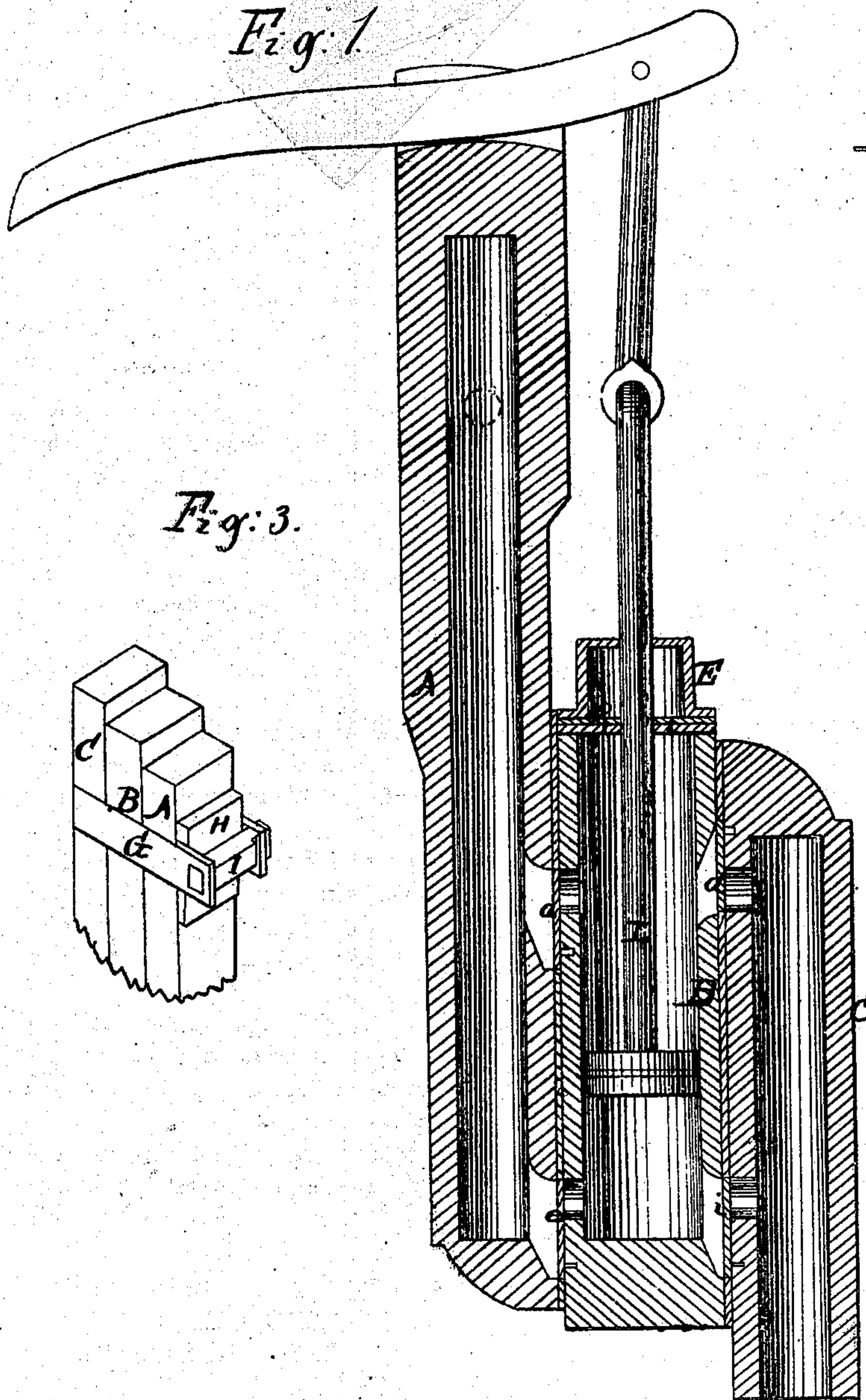


Fig. 2.

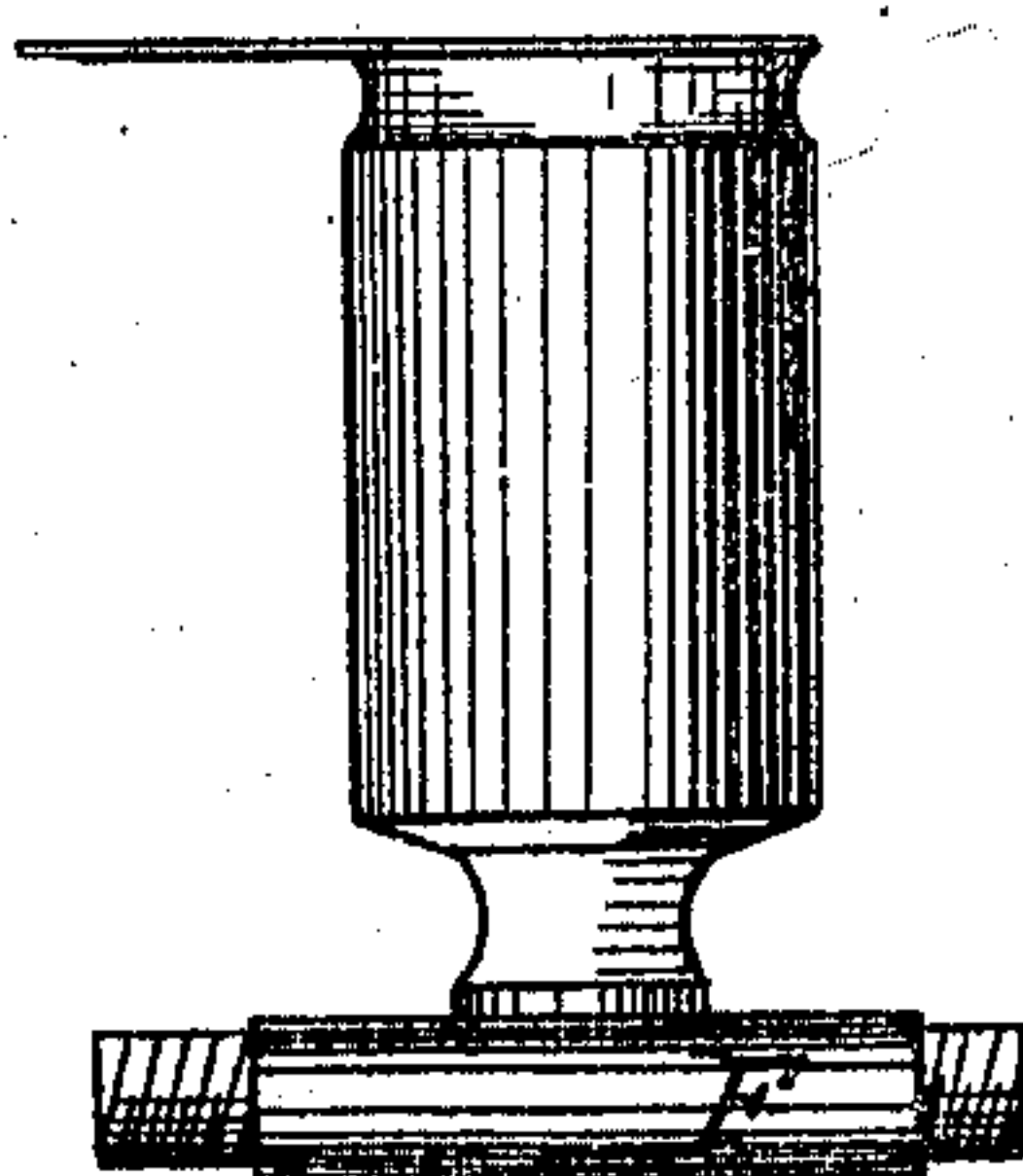
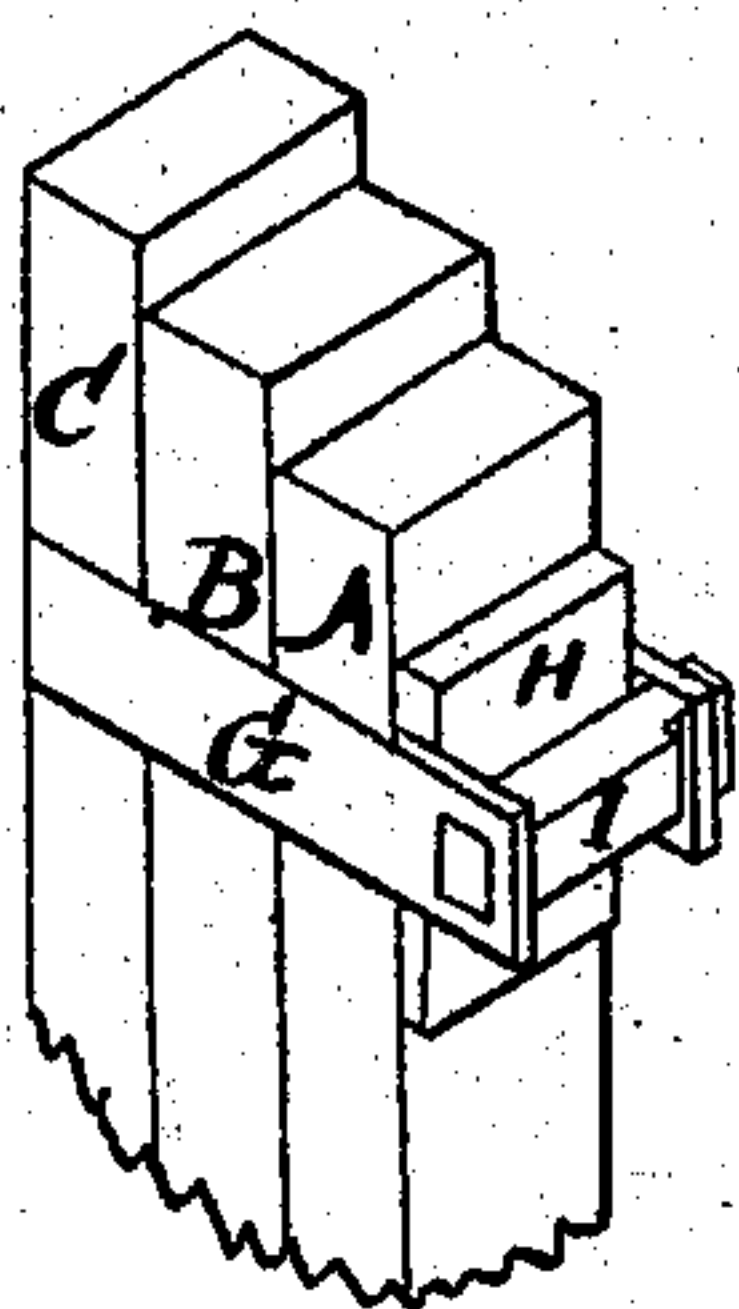


Fig. 3.



Witnesses
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United States Patent Office.

ROBERT GILLILAND AND R. H. ARMSTRONG, OF HUDSON, MICHIGAN.

Letters Patent No. 75,747, dated March 24, 1868.

IMPROVEMENT IN PUMPS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, ROBERT GILLILAND and R. H. ARMSTRONG, of Hudson, in the county of Lenawee, and in the State of Michigan, have invented certain new and useful Improvements in Pumps; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon

In the annexed drawings, making part of this specification, A represents the pump-stock, and B and C represent two short cylinders, which connect with it near its bottom. The stock and cylinders may be secured together in any substantial manner, but we prefer to use a metallic strap, G, seen in Figure 3, surrounding them, and tightened by means of a wedge, H. The pump-rod D, with a plunger on its lower end, plays in the cylinder B. This cylinder is provided with four valves, *a*, *d*, *e*, and *i*. Two of these, *a* and *d*, open into the stock A, and the other two open into the cylinder C, as seen at *e* and *i*.

The water from the well is received into cylinder C through its lower end, which is open. At each up stroke of the piston-rod water passes under the plunger through valve *i*, and the water above the plunger passes out into stock A through valve *a*. At each down stroke of the rod D, water enters above the plunger, through valve *d*, and out below the plunger, at valve *e*, into the stock.

E represents a metallic or other suitable box, which is secured upon the upper end of the cylinder B. The piston-rod D passes through this box, openings being prepared for it, into which it fits water-tight. Water is inserted in the box E, and acts as a packing around the piston-rod, to prevent the passage of air to or from the chamber of cylinder B. By means of this box, with its water-packing, a very secure and effective packing is formed.

It will be seen that the bottom of the box E is provided with a small valve, (see Figure 1,) so that the action of the piston forces the water into this chamber, causing an everlasting packing for and around the piston-rod without placing the working parts of the pump under water. By the arrangement of the sections A B C, with the piston in the centre section, we form a double-action force and suction-pump.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

The arrangement of the water-chamber E, upon the top of section B, for causing a cold-water packing, which is formed by the operation of the pump, and constitutes a double-acting force and suction-pump, without placing the working parts under water, as set forth.

In testimony that we claim the foregoing, we have hereunto set our hands, this 2d day of September, 1867.

ROBT GILLILAND,
R. H. ARMSTRONG.

Witnesses:

L. R. PEIRSON,
P. SHUMWAY.